

REMARKS

Entry of the foregoing amendments, favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks.

Allowable Subject Matter

Applicant gratefully acknowledges the indication, at pages 1 and 5 of the Office Action, that Claims 3, 18-25, and 28-30 have been allowed, and that the subject matters of Claims 13, 15, 26, 27, and 31 are free of the prior art (Claims 13 and 15 were not rejected over the prior art). By way of the foregoing amendments, Claims 13, 15, 26, 27, and 31 have been placed in independent form.

Rejection under 35 U.S.C. § 102

In the Office Action, beginning at page 2, Claims 1, 4, 8, and 10 were rejected under 35 U.S.C. § 102, as reciting subject matters that allegedly are anticipated by U.S. Patent No. 3,471,160, issued to Sabo. Applicant respectfully requests reconsideration of this rejection.

Claim 1 relates to an extraction tool having a combination of elements including, *inter alia*, an extracting tip on a body first end, the extracting tip having a front end and narrowing toward the front of the extraction tip, the extracting tip for being inserted with a cutting action into the threaded insert to be extracted, wherein at least a section of the extracting tip has the shape of a steep-angle truncated pyramid such that edges of the extracting tip pyramid press into the entire depth of the threaded insert when the extracting tip plunges into the threaded insert, and wherein the extracting tip comprises a true square cross section.

The prior art, including *Sabo*, fails to identically disclose or describe an extraction tool as recited in the combinations of the pending claims.

Sabo describes neither an extraction tool in general, nor a special extraction tool for extracting a threaded insert. Instead, *Sabo* relates to an internal pipe wrench (see col. 1, line 62, to col.2, line 13). In most cases where a pipe is to have torque applied thereto and only a short

length of the pipe projects from a wall or other surface, and virtually the entire projecting length is exteriorly threaded for engagement with some other fitting or structure, it will be found that applying torque exteriorly to the pipe in a conventional manner by a conventional pipe wrench will seriously damage the exterior threads adjacent to the end of the pipe. To address this issue, *Sabo* describes a torque-transmitting engagement device which attempts to overcome these disadvantages.

Sabo's device includes an engagement member (20), which is moved into locking engagement within the interior edge (28) of the open pipe end (30). The engagement member is provided with rib means (24), which are jammed into locking engagement with the inner forward edge (28), in a manner best shown in Fig. 2 (see also col. 6, lines 6-27). To establish the locking engagement, a tubular coupling member (34) is applied, which is screwed onto the threaded end (30) of the pipe.

Thus, *Sabo* does not relate to extracting an insert, but relates to applying torque to the open end of a pipe. For the pipe wrench of *Sabo* there is no need to safely extract and remove a separate insert from a location not readily accessible. The pipe wrench of *Sabo* simply applies a torque to a pipe without extracting or removing the pipe itself. Accordingly, although the engagement member (20, in Fig. 1) of *Sabo* has the form of a truncated pyramid, this pyramid is not steep enough to contact more than the mere forward edge (28) of the pipe.

Accordingly, *Sabo* fails to identically disclose or describe an extraction tool having a combination of elements as recited in Claim 1.

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 1, 4, 8, and 10 are not anticipated by *Sabo*, are therefore not unpatentable under 35 U.S.C. § 102, and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 102.

Rejection under 35 U.S.C. § 103(a)

In the Office Action, beginning at page 6, Claims 1, 4-12, 14, 16, and 17 were rejected under 35 U.S.C. § 103(a), as reciting subject matters that allegedly are obvious, and therefore

allegedly unpatentable, over *Caminez* in view of *Sabo*. Applicant respectfully requests reconsideration of this rejection.

Caminez discloses, see Fig. 1, an extracting tool consisting of a head portion 1, a shank portion 2, and a tapered end portion 3. The end portion 3 is tapered and has at least one sharp edge 6 which is intended to engage with only the first convolution of a coil to be extracted (see page 1, left col., lines 33-40). In a preferred embodiment, illustrated in Fig. 2, the portion 3 has a four-cornered cross-section, including two corners 6 that project in a 'hook-like' manner from an otherwise rectangular (or square) cross-section. The non-cutting portions, which according to *Caminez* are preferably in the shape of relatively blunt edges 6', are provided at a slightly smaller distance from the tool axis than the sharp edges 6 (see page 1, right col., lines 25-31, and Fig. 2). Furthermore, the tapered end portion has – when taken from the Figures of *Caminez* – a taper angle of about 5°. *Caminez* is otherwise silent about the taper angle of his device.

The special cross-section of the *Caminez* end portion 3, which differs from a true square cross-section (see Fig. 2) by the inclusion of the 'hook-like' corners 6, and the relatively large taper angle of about 5°, can cause some severe disadvantages, especially when the extracting tool is to be used in a gas turbine environment, where it is necessary to remove the coils from a location within the turbine which is not readily accessible through the small inspection holes: (1) While the tapered end portion 3 of the *Caminez* tool can be used for coils with various diameters, due to the relatively big taper angle, the sharp edges - on the other hand- engage only with the first convolution of the coil, which may be enough to unscrew the coil, but which is by far not enough to truly fix the coil on the tapered end portion 3 such that it can be safely removed through a small inspection hole from the inner parts of a gas turbine, or the like; and (2) The situation becomes worse, because only two of the four edges, *i.e.*, the sharp edges 6, engage with the first convolution, thereby leaving enough place for the coil to be deformed during extraction from the circular shape into a more elliptical shape and then disengage from the sharp edges 6.

Caminez emphasizes that his device should have at least one sharpened corner, so that the tool bites into the coil that the tool is intended to extract; see col. 1, lines 36 - 39 ("The end portion 3 is tapered and has at least one sharp edge intended to engage with the first convolution

of a coil.”). *Caminez* goes on to make clear that modification of his extraction tool would ruin his invention:

I have found that the illustrated form of the tool gives the best results in removing wire coils of the type described in virtue of the following prevailing conditions: In general, the wire is made of hard material, but because of its shape is fairly resilient. It is, therefore, necessary that the extracting tool be so designed that it can imbed itself into the hard wire without causing much radial pressure between the hard wire and the thread groove in which it is fed. If much radial pressure is exerted simultaneously at many points of the periphery of one convolution, the hard wire and especially its end, will catch into the softer threaded groove thereby damaging the tapped hole. One pair of diametrically opposed edges, therefore, produces the best results. On the other hand, a tool having only two edges such as a double-edged blade would not be satisfactory because of the lack of stiffness of a coil portion screwed out of the threaded member with the aid of the extracting tool.

(page 1, col. 2, lines 3-24) (emphasis added)

The Office Action posits that changing the cross-sectional shape of *Caminez*’s extraction tool, from one including two hooks to one including a true square cross section, would have been obvious to the ordinarily skilled artisan in view of *Sabo*. Applicant respectfully disagrees.

From the foregoing discussion in *Caminez*, it is plain that removal of the hooks from *Caminez*’s device would destroy it for its intended purpose. *Caminez* goes to great length, in his otherwise short description, to detail why his hooks are necessary, and what will happen when they are removed from his extraction tool. Indeed, embedding the edges of his extraction tool into the soft threads of the female member 9 is exactly what *Caminez* warns against; however, this is exactly the result obtained, were one to follow the Office Action’s direction to modify *Caminez* in view of *Sabo*. Furthermore, *Sabo* relates to an internal pipe wrench, and not to a tool for extracting a coil lodged in the threads of an internally threaded tube, to which *Caminez* is directed. Thus, *Sabo* is primarily concerned with rotating the internally threaded pipe 30, while *Caminez* is interested in not rotating the internally threaded female member 9.

Applicant respectfully submits that, given the opposite goals of the devices of *Caminez* and *Sabo* and *Caminez*’s strong teaching away from modifying his device in the manner suggested in the Office Action, one of ordinary skill in the art would not look to *Sabo* to solve

any problem with the device of *Caminez*, and indeed would be directed by *Caminez* not to make the exact modification alleged in the Office Action to be obvious.

For at least the foregoing reasons, Applicant respectfully submits that the subject matters of Claims 1, 4-12, 14, 16, and 17, each taken as a whole, would not have been obvious to one of ordinary skill in the art at the time of Applicant's invention, are therefore not unpatentable under 35 U.S.C. § 103(a), and therefore respectfully requests withdrawal of the rejection thereof under 35 U.S.C. § 103(a).

New Claim

Claim 32 has been added, which depends from Claim 1 and is thus allowable for the same reasons. Claim 32 relates to a system including the tool of Claim 1 in combination with a threaded insert. As discussed in depth above, the prior art fails to disclose, describe, or fairly suggest such a combination, and therefore Claim 32 is further allowable over the prior art.

Conclusion

Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of this patent application is therefore respectfully solicited.

If the patent examiner believes that a telephone conference with the undersigned would expedite passage of this patent application to issue, they are invited to call on the number below.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. If, however, additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the Commissioner is hereby authorized to charge fees necessitated by this paper, and to credit all refunds and overpayments, to our Deposit Account 50-2821.

Respectfully submitted,

By: /Adam J. Cermak/
Adam J. Cermak
Registration No. 40,391

U.S. P.T.O. Customer Number 36844

Cermak & Kenealy LLP
515 E. Braddock Rd., Suite B
Alexandria, Virginia 22314

703.778.6609 (v)
703.652.5101 (f)

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